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A new approach to regulation of body-image discrepancies: examining associations between self-talk and personality.

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Abstract

Body image discrepancies influence both body dissatisfaction and likelihood of engaging in unhealthy behaviours, such as eating disorders. What is poorly understood, however, are the cognitive mechanisms by which individuals seek to reduce discrepancies, that is, the way in which they regulate their pursuit or avoidance of projected selves. Furthermore, individual-level antecedents of goal-directed self-talk (e.g., personality, goal states) have received limited previous examination. Thus, the present study examined predictors of individuals' use of motivationally adaptive versus inhibitive ways of self-regulating, and how these might differentially relate to body-image discrepancies. An opportunistic sample of 116 individuals (49 males, 67 females), completed a battery of questionnaires measuring body fatness discrepancies, self-talk, conscientiousness and neuroticism. Personality dimensions were related to self-talk in the manner expected, with conscientiousness positively related to informational self-talk, and neuroticism predicting the use of more controlling, pressurising, and amotivational self-talk. Contrary to hypotheses, ideal-actual discrepancies predicted the use of less informational self-talk, and more controlling and amotivational self-talk. This suggests that in the context of body image discrepancies, the pursuit of the ideal self is regulated in a more controlling way when the goal state is distal. By identifying for the first time the relationships between goal-discrepancies and how individuals interpret their associated cognition, this study should serve as a starting point for further research examining the modification of body image concerns through targeted cognitive interventions.

Keywords: Body image, self-discrepancies, self-talk, personality.

A new approach to regulation of body-image discrepancies: examining associations between self-talk and personality.

Within the past decade body image has become an area of heightened research interest given increasing reports of body image concerns and their related behavioural and psychological impact (e.g., Balcetis, Cole, Chelberg, & Alicke, 2013; Tiggemann, Polivy & Hargreaves, 2009). For example, previous research has reported associations between body image and social anxiety (e.g., Izgiç, Akyüz, Doğan, & Nuğu, 2004), eating disorders (Thompson et al., 1995), and lowered self-esteem (Olivardia, Pope, Borowiecki, & Cohane, 2004). Research based on Higgins' (1987) self-discrepancy theory has explored whether such body image concerns may develop and persist due to discrepancies between individuals' perceptions of their actual body shape and other referential 'selves'. Higgins' initial theorising posited discrepancies between the actual and the ought self (an obligated goal state), and the actual and the ideal self (approach-focused goal state), arguing that these discrepancies were differentially associated with anxiety (actual-ought) and dejection or depression (actual-ideal). In the context of body image, research has shown links between these discrepancies and both body dissatisfaction and increased likelihood of engaging in unhealthy behaviour (Cahill & Mussap, 2007; Neumark-Sztainer, Paxton, Hannan, Haines & Story, 2006).

When considering an individual's motives for discrepancy reduction, Higgins' predicted associations between discrepancies and affective outcomes have been widely evidenced. What is poorly understood, however, is the nature of the cognitive mechanisms by which individuals may seek to reduce discrepancies, that is, the way in which they regulate their pursuit or avoidance of those goal states. One cognitive mechanism receiving increasing examination in terms of its role in conscious goal-directed behaviour is self-talk. Although a variety of terms have been used to refer to self-talk (e.g., inner speech, internal dialogue,

private speech: Depape, Hakim-Larson, Voelker, Page, & Jackson, 2006), the general term encompasses any verbalizations addressed to the self, whether overtly or covertly (cf. Hardy, Hall, & Hardy, 2005).

Self-talk research that has examined the nature of goal engagement has provided findings of mixed use. Criticised for its atheoretical nature (e.g., Hardy, 2006), early work regarding 'motivational self-talk' established positive effects of motivating phrases on self-efficacy for task performance (Hatzigeorgiadis, Zourbanos, Goltsios, & Theodorakis, 2008). Although goal-related self-efficacy is associated with long-term behavioral persistence (McAuley, Morris, Motl, Hu, Konopack, & Elavsky, 2007), these task-specific studies have limited application to our understanding of the role self-talk plays in motivation over time. Given findings supporting the use of metacognitive private speech to aid persistence in a challenging task (Chiu & Alexander, 2000), and that deficiencies in use of private speech have been related to impaired task persistence (Harris, 1986), an argument can be made that conscious self-directed speech (self-talk) has a role in regulation of goal-directed behaviour.

In an attempt to develop a theoretical grounding for the study of self-talk, recent work proposed a model based on Deci and Ryan's (1985) cognitive evaluation theory (CET). CET posits that events relevant to the initiation and regulation of behaviour can have one of three aspects that impact upon psychological need satisfaction, and subsequent engagement. Specifically, informational events facilitate need satisfaction by providing competence-relevant feedback and the experience of choice, whereas controlling events undermine need satisfaction by engendering pressures to act in particular ways. Amotivational events facilitate perceptions of incompetence and promote amotivation (CET: Proposition IV). Drawing on CET, self-talk is argued to represent an internal regulatory event that can be experienced as informational, controlling, or amotivational, with subsequent differential consequences for both motivation and affective state.

Emerging research has provided some support for these ideas by meaningfully differentiating self-talk into informational and controlling components that have positive and negative affective associations, respectively (Oliver, Markland, & Hardy, 2010). In the present study, we hypothesised on conceptual grounds that discrepancies would be differentially related to the use of self-talk. Specifically, we posited that an actual-ought discrepancy, based on the pursuit of an enforced and obligated goal, is likely to be associated with use of controlling (i.e., non-self-determined) self-talk. Thus, as the actual-ought discrepancy increases, controlling self-talk was also predicted to increase, with individuals increasingly pressurising themselves to move closer to their ought selves. Conversely an actual-ideal discrepancy, focused on a growth-oriented goal, would be associated with informational self-talk, that which provides competence-enhancing feedback to aid goal attainment. Thus, as the actual-ideal discrepancy increases, informational self-talk was predicted to increase as individuals make increasing efforts to move closer to their distal ideal goal. Finally, with regards to the actual-feared discrepancy (i.e., the self you fear becoming), we hypothesised that the discrepancy would be negatively related to controlling self-talk. That is, when the actual-feared discrepancy is small, and the individual is close to their feared self, they are likely to use more self-pressurising and controlling self-talk aimed at stimulating movement away from that state, than when the discrepancy is perceived as larger. When considering amotivational self-talk, it was hypothesised that it would be positively related to both the actual-ought and actual-ideal discrepancies, in that self-talk relating to feeling unable to achieve their goal would likely increase the further away that goal was, irrespective of the type of goal. Due to the agitation, anxiety, and guilt associated with proximity to the feared self (Carver, Lawrence, & Schier, 1999), amotivational self-talk is unlikely to be positively associated with the feared discrepancy.

Personality as an antecedent of self-talk.

A secondary aim of the study was to respond to calls highlighting limited research regarding the antecedents of self-talk (Van Raalte, Cornelius, Hatten,& Brewer, 2000; Hardy, 2006). Research has linked traits such as anxiety to the content of self-directed cognition (e.g., Conroy & Metzler, 2004), and personality dimensions, in particular neuroticism, to the frequency and type of self-talk (e.g., self-blaming self-talk, Depape et al., 2006). However, it is important to note that these predominantly focus on the *content* of self-talk phrases, rather than its interpretation. In the context of motivational or goal-directed self-talk, this is inappropriate as the same phrase (e.g., 'concentrate') might equally be perceived as controlling or informational. As such, the present study represents as attempt to use CET to examine how the interpretation and subsequent motivational effects of self-talk might be linked with personality.

Based on the conceptual nature of Costa and McCrae's (1992) dimensions, it was proposed that conscientious individuals may use feedback and task related self-talk, that is more informational self-talk. It was also suggested that neurotic individuals are likely to interpret their self-talk as self-pressurising (controlling self-talk) or self-critical (amotivational self-talk). Thus, it was hypothesised that conscientiousness would be positively associated with informational self-talk, and that neuroticism would be positively associated with controlling self-talk and amotivational self-talk. Hypotheses related to self-talk and agreeableness, openness and extroversion were not formulated due to an absence of conceptually-robust arguments for any associations.

In sum, examining relationships between personality variables, goal-discrepancies, and cognitive regulation are a novel addition to existing both body-image focused research and individual differences literature. The main aim of the present study was to examine predictors of individuals' use of motivationally adaptive versus inhibitive ways of self-regulating, and how these might differentially relate to body-image related discrepancies.

Methods

Participants and Procedure

Following research ethics approval, 116 individuals (49 males, 67 females; M_{age} = 25.3, *SD* = 12.04) were opportunistically recruited from the general population using posters, e-mails, and word-of-mouth. Participants were provided with an information sheet, and completed an informed consent form followed by the questionnaire battery.

Measures

The questionnaire pack consisted of demographic questions, visual analogue body discrepancies scales (Woodman & Steer, 2011), the functional significance of self-talk questionnaire (Oliver, Markland, & Hardy, 2010), and measures of conscientiousness and neuroticism (Goldberg, 1999).

Body Fatness Discrepancies. Discrepancies between the perceived actual, ideal, feared, and ought selves were measured using visual analogue scales (cf. Woodman & Steer, 2011). On four separate 15 cm scales, participants indicated *how fat you feel your body actually is* (actual self), *ought to be* (ought self), *you ideally would like your body to be* (ideal self), and *you fear your body being* (feared self). Scales ranged from markers of 0 (*not at all fat*) to 15 (*extremely fat*). Body discrepancies were calculated by creating an absolute difference score between the actual score and the ought, ideal, and feared scores.

Self-talk. Motivational interpretation of self-talk was assessed using the functional significance of self-talk questionnaire (FSTQ: Oliver et al., 2010). In the present study, minor amendments were made to the instructional set to make the FSTQ applicable to a body-image context. The original FSTQ was comprised of 11 items; participants were asked to rate the extent to which their self-talk “tells me what I should be doing” [controlling], or “makes me feel I’m in control” [informational], using a 5-point Likert-type scale ranging from 1 (not at

all) to 5 (very much so). Ongoing development of the FSTQ has resulted in the addition of an amotivational subscale, aligned with the original triadic conceptualisation of functional significances in CET. Four amotivational items generated from and validated in pilot work (Oliver, 2010) were included in this study: "makes me feel incompetent", "makes me feel I cannot achieve the outcome I want", "makes me feel useless" and "makes me feel unable to achieve the outcome". Piloted CST items "puts me under pressure", "tells me the way I should act" and "tells me the way I have to act" were also added. The final FSTQ therefore consisted of 19 items.

Neuroticism and Conscientiousness. Conscientiousness and neuroticism were measured using Goldberg's (1999) 10-item domain subscales based on the Revised NEO personality inventory (NEO PI-R; Costa & McCrae, 1992; see Goldberg et al., 2006). The two ten item subscales required participants to rate the extent that they felt that each item accurately described themselves, on a five point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items included "I do more than what's expected of me" (conscientiousness) and "I panic easily" (neuroticism).

Results

Descriptive statistics and scale refinement.

Table 1 shows the means, standard deviations, and bivariate correlations for variables of interest. Cronbach's alphas indicated acceptable levels of reliability for conscientiousness (10 items: $\alpha = .78$), informational self-talk (7 items: $\alpha = .85$), and amotivational self-talk (4 items: $\alpha = .79$). The neuroticism scale was below conventional guidelines (10 items: $\alpha = .50$), driven by problems with item 3 'I dislike myself'. It is possible that given the context of the study that this item was influenced by the recent body image self-evaluation. Following removal of item 3, the scale indicated excellent internal consistency ($\alpha = .90$).

In line with Oliver et al.'s (2010) original findings during scale development, the controlling self-talk subscale was problematic. A low initial alpha for the four item scale (4 items: $\alpha = .40$) was improved by the inclusion of the piloted items (7 item: $\alpha = .65$). In both the original and extended scale, item 8 ('was critical') exhibited low inter-item correlations and its removal improved the reliability to an acceptable level (6 items: $\alpha = .72$).

Due to the novel structure of the self-talk questionnaire, testing was conducted to re-establish its structural integrity. A principal components analysis, using a forced three factor solution with promax rotation, highlighted three-factors with eigenvalues greater than 1.0, accounting for 55.5% of the variance. Examination of item content revealed that the first factor contained all seven items intended to tap informational types of self-talk, whereas the second and third factors contained a mixture of controlling and amotivational items, with substantial cross-loading. Despite ongoing difficulties to empirically distinguish controlling and amotivational items, as the two subscales indicated acceptable reliability and correlations between the two was only moderate ($r = .610$), they were retained.

Hypothesis Testing

Body image discrepancies and self-talk. Ideal-actual discrepancies ($\beta = -.366$; $p < .001$), but not ought-actual ($\beta = .326$; $p < .001$) or feared-actual ($\beta = .326$; $p < .001$) discrepancies, predicted use of informational self-talk ($R^2 = .047$, $p\Delta F = .179$). The direction was opposite to the hypothesised effect, with ideal-actual discrepancies negatively related to use of informational self-talk. Similarly, for controlling self-talk, the ideal-actual discrepancy ($\beta = .387$; $p = .034$) but not the ought-actual ($\beta = -.146$; $p = .415$) or feared-actual ($\beta = .107$; $p = .273$) discrepancies were significant predictors ($R^2 = .080$, $p\Delta F = .038$), indicating that the larger the ideal-actual discrepancy, the more controlling self-talk is used. In terms of amotivational self-talk, although the model as a whole was significant ($R^2 = .113$, $p\Delta F = .008$), individual predictors were nonsignificant. The strength and direction of coefficients

was however consistent with results for the other types of self-talk (ideal-actual: β = .270; p < .128; ought-actual: β = .077; p < .662; feared-actual; β = .034; p < .728).

Personality and self-talk. Personality dimensions predicted the use of self-talk broadly in line with hypotheses; both conscientiousness (β = .326; p < .001) and neuroticism (β = -.364; p < .001) significantly predicted the use of informational self-talk (R^2 = .27, p < .001). Controlling self-talk was positively predicted by neuroticism (β = .507; p < .001) but not conscientiousness (β = .024; p = .787), explaining 25.4% of variance in self-talk (p < .001). Lastly, amotivational self-talk was predicted by neuroticism (β = .569; p < .001) but not conscientiousness (β = -.082; p = .321; R^2 = 341; $p\Delta F$ < .001).

Discussion

Grounded in self-discrepancy and self-determination theories, the current study aimed to test conceptual links between body image discrepancies and how individuals consciously regulate their pursuit or avoidance of imagined selves. Personality dimensions predicted self-talk in the manner expected, with conscientiousness positively related to informational self-talk, and neuroticism predicting the use of more controlling, pressurising, and amotivational self-talk. However, the associations between body image discrepancies and self-talk were more complex.

Contrary to hypotheses, ideal-actual discrepancies predicted the use of *less* informational self-talk, *more* controlling self-talk and *more* amotivational self-talk. It is possible that informational self-talk is used more when goals are proximal and perceived as achievable. It is plausible that the sense of competency provided by informational self-talk is only viable when a goal is close to being attained. Alternatively, in the context of body image discrepancies, an ideal goal might be less of a personal growth variable, and more of an internalised societal ideal. Thus, its pursuit and adhering to that pursuit is regulated in a

controlling rather than an informational way, especially when one is far from achieving the goal. This has implications in that individuals are likely to experience the negative affective states that accompany controlling regulation (Deci & Ryan, 2000) when pursuing an ideal goal in this way. Controlling regulation of the ideal discrepancy might also in part explain the widely reported maintenance problem with body image, exercise, or weight control related goals, for example. If individuals are regulating their goal pursuit in a controlling way this will undermine self-determined motivation and long-term persistence (Teixeria, Silva, Mata, Palmerira, & Markland, 2012).

The importance of the ideal-actual discrepancy and use of self-talk has significance for what is understood about body image. This was the only discrepancy that was related to self-talk when all three discrepancies were modelled, which seems understandable given the greater likelihood of comparisons made between the actual and the widely-promoted ideal, rather than the actual with ought and feared. Messages about ideal body shapes are likely to be internalised and are recalled both consciously and unconsciously due to greater processing of information about the ideal, which consequently reinforces the perceived discrepancy with the actual. Consequently, individuals are likely to engage in greater use of self-talk when the ideal-actual discrepancy becomes larger, as it is a more important personal and societal point of reference.

In terms of the emergence of the hypothesised relationships between individual difference variables and self-talk, this study extends existing work examining personal as opposed to situational antecedents of self-talk. As expected, neuroticism predicted the use of more need thwarting types of self-talk with potentially detrimental implications for wellbeing through the experience of self-imposed pressure and control. Conversely, conscientiousness predicted the use of task relevant and competence enhancing internal speech, indicating a more focused and pragmatic approach to goal pursuit. These associations suggest that

individuals may have a trait or dominant way of self-regulating, with personality shaping the way internal voices and dialogues are characterised and experienced.

Limitations and Future Research. Given the opportunist nature of our sampling methodology, we acknowledge that this may have caused inherent biases. Additionally, there was no sampling strategy based on Body Mass Index (weight (kg) / height $(m)^2$; Biddle & Mutrie, 2007), which may also be a factor that influences the size of discrepancies sampled. Whilst a more strategic approach would likely have accounted for these potential limitations, it should be noted that body image concerns and negative body talk are reported across the body size spectrum (Barwick, Bazzini, Martz, Rocheleau, & Curtin, 2012).

Given the complexity of body image, the use of single item scales to identify body discrepancies on a rating scale, may not provide a representation as accurate as other tools that are now being employed. Software based products such as visual computer based measures (e.g., Somatomorphic Matrix; Gruber, Pope, Borowiecki, & Cohane, 1999) and avatar manipulation software allow the individual to provide a visual response as opposed to a number on a continuum. It may also have been useful to have examined interactions between the discrepancies as Carver, Lawrence and Schier (1999) reported they may alter affective responses. Whilst these interactions may have been included, this was not an aim of the present study, but may provide an avenue for future research.

Lastly, future work could seek larger samples to enable examination of interactions between the trait and state individual differences factors measured. It is possible that, for example, when conscientiousness is high, higher ought-actual discrepancies should predict the use of more controlling self-talk than when conscientiousness is low. That is, one could argue that a cumulative effect would occur when both a goal-focused personality trait and a large discrepancy are present. Conversely, if individuals are low in conscientiousness, even a

large discrepancy may be insufficient to stimulate the use of controlling and pressuring self-talk.

Conclusion. Despite the potential limitations identified above, this study not only contributes to the rapidly increasing body of literature examining body image, but provides an initial insight into associations between body image concerns and self-talk. On the basis of the present findings, future research should build on the self-report data by conducting experimental work to identify whether manipulation of self-talk may function to aid affective state, regulation of goal discrepancies ,and engagement in goal-relevant behaviours. In particular, interventions targeting body image disorder are required given its increasing commonality becomes larger and consequently further away from the ideal. Work investigating the causal effects of self-talk on affect, and manipulation of discrepancies to examine cognitive responses, is ongoing.

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Table 1

Means, standard deviations, and correlations of study variables.

	Mean	SD	2	3	4	5	6	7	8
IST	22.72	4.65	-.119	-.443**	.374**	-.407**	-.079	.010	.089
CST	14.08	4.10	-	.647**	-.069	.502**	.270**	.193*	.076
AST	11.64	4.57		-	-.167	.571**	.286**	.268**	.009
Conscientiousness	31.72	6.24			-	-.112	-.065	.037	.168
Neuroticism	22.98	4.90				-	.134	.113	.081
Actual-Ideal	24.39	28.19					-	.847**	-.081
Actual-Ought	20.39	31.58						-	-.001
Actual-Feared	33.12	29.19							-

** = $p < .01$; * = $p < .05$; All means are post scale modification.